

# ***Aneurhynchus* Westwood (Hymenoptera: Diapriidae) new to China, with description of a new species and two newly recorded species**

Shiwen YANG, Zi HOU, Jingxian LIU<sup>①</sup>

Department of Entomology, South China Agricultural University, Guangzhou, Guangdong 510640, China

**Abstract:** The genus *Aneurhynchus* Westwood, 1832 is newly reported from the Chinese fauna with description and illustration of a new species, *A. yunnanensis* sp. nov., and two newly recorded species, *A. galesiformis* Westwood, 1832 and *A. pentatomus* Thomson, 1859. A key to the Chinese species in this genus is provided.

**Key words:** Apocrita; Proctotrupoidea; taxonomy; key

离脉锤角细蜂属——中国新纪录及一新种两新纪录种记述（膜翅目：锤角细蜂科）

杨世文，后梓，刘经贤<sup>①</sup>

华南农业大学昆虫学系，广东 广州 510640

**摘要：**记述锤角细蜂科 Diapriidae 1 中国新纪录属：离脉锤角细蜂属 *Aneurhynchus* Westwood, 1832，以及该属 1 新种：云南离脉锤角细蜂 *A. yunnanensis* sp. nov., 2 新纪录种：阔沟离脉锤角细蜂 *A. galesiformis* Westwood, 1832 和平离脉锤角细蜂 *A. pentatomus* Thomson, 1859，对新种进行了详细描述并附特征图，编制了我国该属种类分种检索表。

**关键词：**细腰亚目；细蜂总科；分类；检索表

## **Introduction**

The genus *Aneurhynchus* Westwood, 1832 belongs to the subfamily Diapriinae in the Diapriidae and currently contains 45 species worldwide (Johnson 1992, 2017). Most species in this genus occur in the Palearctic Region (Honda 1968; Nixon 1980; Tymochko 2013) with a few species distributed in the Oriental (Dodd 1920; Notton 2014), Nearctic and Ethiopian Regions (Johnson 1992; Notton 2014). Biology of most species is little known, except for two species which were reared as pupal parasitoids of *Fannia* sp. (Diptera, Fanniidae) (Honda 1968) and the flat foot fly *Platypeza fasciata* (Diptera: Platypezidae) (Nixon 1980). This genus was hitherto unknown from China. One new species and two newly recorded species are described and illustrated.

## Material and methods

Figures were made using a Coolsnap digital camera mounted on a Zeiss Stemi 2000-CS (Germany) stereomicroscope and processed with Image-Pro Plus 6.0 version software.

The morphological terminology follows Masner & García (2002). The measurements in the descriptions are relative, with the length of body and fore wing reported in millimeters. The following abbreviations are used in the text: POL — posterior ocellar line (the shortest distance between posterior ocelli); OOL — oculo-ocellar line (the shortest distance between a posterior ocellus and a compound eye); A1, A2, ... — the first, second.... antennal segments, respectively.

## Taxonomy

### Genus *Aneurhynchus* Westwood, 1832

*Aneurhynchus* Westwood, 1832: 129. Type species: *Aneurhynchus galesiformis* Westwood, by monotypy.

*Mythras* Blanchard, 1840: 281. Type species: *Aneurhynchus galesiformis* Westwood. Synonymized by Masner & Sundholm (1959).

*Aneurhynchus*: Brullé, 1846: 612. Emendation, description.

*Glyptonota* Förster, 1856: 122. Type: *Glyptonota nigriclavata* Ashmead, 1893, first included species. Keyed. Synonymized by Masner & Sundholm (1959).

*Diapria* (*Aneurhynchus*): Haliday, 1857: 172.

Diagnosis. Body length 1.5–3.0 mm, macropterous or micropterous. Antenna of female 12-segmented, of male 14-segmented, A4 of male basally modified. Mouthpart hypognathous. Mandible short, bidentate. Palpal formula 5–3. Malar space basically radically sculptured. Fore wing with costal vein entirely absent; basal vein, submarginal vein and cubital vein present, usually nebulous; submarginal vein ending distally in a punctiform marginalis remote from the edge of wing. Axilla laterally posteriorly armed with a strong hook-like projection. Base of syntergite with a deep median cleft.

Distribution. Palearctic; Oriental; Nearctic and Ethiopian Regions.

### Key to the species of *Aneurhynchus* from China

1. Antenna with A13 less than 3 times as long as wide; notauli with apical end strongly widened.....  
..... *A. galesiformis*
- . Antenna with A13 distinctly longer than 3 times as long as wide; notauli with apical end not strongly widened.....2
2. Eyes with sparse setae; first antennal segment 4.3 times as long as wide.....*A. pentatomus*
- . Eyes bare; first antennal segment 5.0 times as long as wide..... *A. yunnanensis* **sp. nov.**

#### 1. *Aneurhynchus yunnanensis* **sp. nov.** (Figs. 1–4)

Diagnosis. Eyes bare; apical antennal segment 4.2 times as long as wide; notauli with apical ends not widened; basal half of A4 slightly modified; epomia strong, with a row of small foveae along its margins. Coxae blackish brown.

Holotype. Male. Body length 2.2 mm. Fore wing length 1.8 mm.

Colour. Head and mesosoma black, metasoma blackish-brown. Coxae blackish-brown;

trochanters and tibia dark brown with apex brownish-yellow; femur dark brown, basally and apically brownish-yellow; tarsus brownish-yellow. Tegula, mandible and palpi brown. Antenna blackish-brown, with A1 to A3 ventrally brownish-yellow. Wings hyaline, veins infusate.



Figure 1. *Aneurhynchus yunnanensis* sp. nov. holotype. Male habitus, lateral view.

**Head.** Transverse in dorsal view and nearly triangular in lateral view; ratio of height to width 44 : 50. Antennal shelf moderately projected. Toruli separated. Face sparsely setose. Eyes bare, 1.2 times as high as wide in lateral view. OOL : POL = 13 : 14. Vertex smooth, sparsely setose. Temple slightly narrowed behind eyes, sparsely setose. Occipital carina complete. Malar space 0.52 times the longest diameter of eye. Anterior tentorial pits developed. Clypeus convex. Antenna with moderately dense setae; A1 slightly longer than the combined length of A3 and A4 (35 : 33); basal half of A4 slightly modified; ratio of length to width of antennal segments as follows: A1 (35 : 7), A2 (11 : 8), A3 (14 : 6.5), A4 (19 : 7), A5 (17 : 7), A6 (20 : 6.5), A7 (19 : 6.5), A8 (17 : 6), A9 (18 : 6), A10 (17 : 6), A11 (18 : 6), A12 (18 : 5.8), A13 (19 : 5.2), A14 (21 : 5).

**Mesosoma.** Slightly wider than head in dorsal view, nearly as high as wide, weakly convex. Cervix long, dorsally with irregular wrinkles. Pronotal shoulder angled, posterior dorsal margin with a row of foveae. Epomia strong, with a row of small foveae along its margins. Notauli with apical ends not widened. Mesoscutum sparsely setose, centrally convex, with a continuous row of foveae along its anterior and lateral margins. Humeral sulcus absent. Anterior scutellar pit with two foveae, round, punctate inside. Scutellar disc nearly square, lateral pit foveolate. Axillar area irregularly rugose. Mesopleuron largely bare and smooth, with anterior margin and lower half sparsely setose. Mesopleural suture foveolate. Sternaulus short and wide. Metapleuron and pleural area of propodeum densely setose.

**Wings.** Fore wing with submarginal vein extending to apical 0.6, radius weakly

pigmented, nebulous. Hind wing with submarginal vein present, marginal vein short.

Legs. Apical half of femur clavate, apical half of tibia sub-clavate.

Metasoma. Petiole cylindrical, 1.5 times as long as wide in lateral view, with strong longitudinal ridges, sparsely setose. Base of syntergite with a wide median longitudinal cleft, each side with a longitudinal ridge.

Female. Unknown.

Biology. Unknown.

**Holotype.** ♂, **China**, Yunnan, Yongshan County, Huanghua Town, 10-VIII-2012, Shiwen YANG, No. Hua1-201210049 (SCAU).

Distribution. China (Yunnan).

Remarks. This species is similar to *A. ruficornis*, but different from the latter by apical antennal segments 4.2 times as long as wide (3.0 times in *A. ruficornis*) and fifth to thirteenth antennal segments 2.4–3.6 times as long as wide (2.0 times in *A. ruficornis*).

Etymology. This species is named after the type locality.



Figure 2–4. *Aneurhynchus yunnanensis* sp. nov., holotype, male. 2. Face, frontal view; 3. Antenna; 4. Head, mesoscutum and scutellum, dorsal view.

## 2. *Aneurhynchus galesiformis* Westwood, 1832, new record to China

*Aneurhynchus galesiformis* Westwood, 1832: 129. Male.

*Diapria radialis* Nees ab Esenbeck, 1834: 334. Synonymized by Marshall (1873).

Diagnosis. Body black. Mandible and palpi brown. Antennae black, with pedicle brown.

Legs blackish-brown, with coxa black. Wings hyaline tinged with fuscous, veins brown. Notauli with apical ends distinctly widened, A4 with short, very indistinct keel, preapical segment of antenna less than three times as long as wide and antenna dark brown throughout. Ratio of length to width of each segment of antenna as follows: A1(40 : 8), A2(9 : 8), A3(15 : 7), A4(16 : 8), A5(16 : 8), A6(16 : 8), A7(16 : 8), A8(15 : 8), A9(15 : 7), A10(15 : 7), A11(15 : 7), A12(15 : 7), A13(16 : 7), A14(22 : 6). Petiole 1.3 times as long as wide, with three longitudinal ridges. Base of syntergite without transverse ridges, median longitudinal groove present on basal 0.3, lateral longitudinal groove deep.

**Specimen examined.** 1♂, **China**, Ningxia, Mt. Liupanshan, 03–14-VII-2009, YPT (yellow pan trap), Huayan CHEN, No. 200903411.

Distribution. China (Ningxia); Russia; Sweden; Germany; the United Kingdom (Kieffer 1916; Kozlov 1978; Nixon 1980).

### 3. *Aneurhynchus pentatomus* Thomson, 1859, new record to China

*Aneurhynchus pentatomus* Thomson, 1859: 376. Type female, male.

Diagnosis. Body black. Antennae reddish-brown. Tegula reddish-brown. Legs light brown, coxa dark brown. Wings hyaline, veins light brown. Eye sparsely setose; first antennal segment 4.3 times as long as wide; A4 with basal keel distinct. Ratio of length to width of antenna segments as follows: A1(30 : 7), A2(9 : 7), A3(12 : 5), A4(16 : 6), A5(18 : 6), A6(16 : 5), A7(16 : 5), A8(15 : 5), A9(15 : 5), A10(15 : 5), A11(15 : 5), A12(15 : 4), A13(16 : 4), A14(20 : 5). Petiole 2.5 times as long as wide, with coarse longitudinal ridges. Base of syntergite smooth, median longitudinal groove present on basal 0.4.

**Specimen examined.** 1♂, **China**, Zhejiang, Lin'an, Mt. Qingliangfeng, 01-VIII-2005, Min SHI, No. 200603675 (SCAU).

Distribution. China (Zhejiang); Sweden; France; United Kingdom; Italy; Russia (Kieffer 1916; Kozlov 1978; Nixon 1980; Johnson 1992, 2017).

## Acknowledgments

This study was supported by the National Natural Science Foundation of China (31272351, U0936601).

## References

- Ashmead WHA. 1893. A monograph of the North American Proctotrypidae. *Bulletin of the United States National Museum*, 45: 1–472.
- Blanchard E. 1840. *Histoire naturelle des insects. Orthopteres, Nevropteres, Hemipteres, Hymenopteres, Lepidopteres et Dipteres*. Tome 3. P. Dumenil, Paris, 672 pp.
- Brullé A. 1846. *Histoire naturelle des insects. Hymenopteres. Tome quatrieme*. Librairie Encyclopedique de Roret, Paris, 680 pp.
- Dodd AP. 1920. Notes on the exotic Proctotrupoidea in the British and Oxford University Museums, with descriptions of new genera and species. *Transactions of the Entomological Society of London*, 1919: 321–382.
- Förster A. 1856. *Hymenopterologische Studien. II. Heft. Chalcidae und Proctotrupii*. Ernst ter Meer, Aachen,

512 pp.

- Haliday AH. 1857. Notes on a peculiar form of the ovaries observed in a hymenopterous insect, constituting a new genus and species of the family Diapriidae. *Natural History Review*, 4: 166–174.
- Honda M. 1968. Study on the Japanese *Aneurhynchus* Westwood (Hymenoptera: Diapriidae). *Journal of the Faculty of Agriculture, Kyushu University*, 14(4): 613–617.
- Johnson NF. 1992. Catalog of world species of Proctotrupoidea, exclusive of Platygasteridae. *American Entomological Institute*, 51: 1–263.
- Johnson NF. 2017. Hymenoptera Online (HOL). Available from: <http://hol.osu.edu>. (Accessed 19 March 2017)
- Kieffer JJ. 1916. *Hymenoptera, Proctotrupoidea, Diapriidae*. Das Tierreich 44, R. Friedlander und Sohn, Berlin, 661 pp.
- Kozlov MA. 1978. Superfamily Proctotrupoidea. In: Medvedev GS (Ed.), *Keys to the Insects of the European Portion of the USSR*. Vol. 3, Part 2. Nauka, Leningrad, pp. 538–664.
- Marshall TA. 1873. A catalogue of British Hymenoptera: Oxyura. *The Entomological Society of London, General Catalogue of the Insects of British Isles*. Entomological Society of London, London, 27 pp.
- Masner L & García JLR. 2002. The genera of Diapriinae (Hymenoptera: Diapriidae) in the New World. *Bulletin American Museum of Natural History*. BioOne, Washington, No. 268, 138 pp.
- Masner L & Sundholm A. 1959. Some nomenclatoric problems in Diapriidae (Hym., Proctotrupoidea). *Casopis Československé Společnosti Entomologické*, 56: 161–168.
- Nees ab Esenbeck CG. 1834. *Hymenopterorum Ichneumonibus Affinium Monographiae, Genera Euripaea et Species Illustantes*. Vol. 2. J. G.G. Cotta, Stuttgart, 448 pp.
- Nixon GEJ. 1980. Diapriidae (Diapriinae) Hymenoptera, Proctotrupoidea. *Handbooks for the Identification of British Insects*, Vol. 8, Part 3. Royal Entomological Society, London, 55 pp.
- Notton DG. 2014. A catalogue of the types of Diapriinae (Hymenoptera, Diapriidae) at the Natural History Museum, London. *European Journal of Taxonomy*, 75: 1–123.
- Thomson CG. 1859. Sverges Proctotruper, IV. Tribus Diapriini. Tribus V. Ismarini. Tribus VI. Helorini. *Ofversigt af Kongliga Ventenskaps-Akadamiens Forhandlingar*, 15: 359–380.
- Tymochko LI. 2013. Diapriid wasps of the subfamily Diapriinae (Hymenoptera, Diaprioidea, Diapriidae) of the Ukrainian Carpathians: keys to tribes, genera and species. *Euroasian Entomological Journal*, 12(3): 297–380.
- Westwood JO. 1832. Descriptions of several new British forms among the parasitic hymenopterous insects. *London & Edinburgh Philosophical Magazine and Journal of Science*, 2: 443–445.